

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
 Organization  
 International Bureau



(43) International Publication Date  
 22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
**WO 2004/008447 A1**

- (51) International Patent Classification<sup>7</sup>: **G11B 7/24**
- (21) International Application Number:  
 PCT/IB2003/002956
- (22) International Filing Date: 20 June 2003 (20.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
 02077860.1 15 July 2002 (15.07.2002) EP
- (71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
 Groenewoudseweg 1, NL-5621 5621 BA Eindhoven (NL).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **ZHOU, Guofu** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: **DEGUELLE, Wilhelmus, H., G.**; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

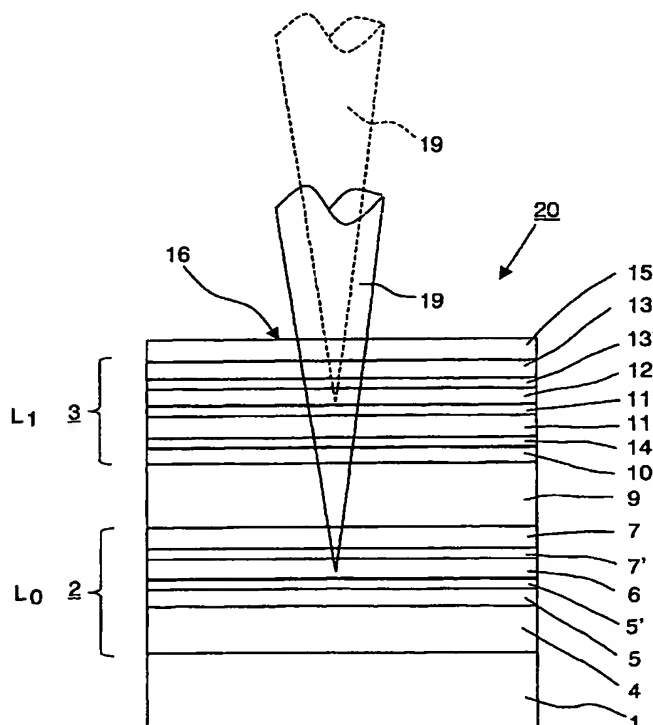
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

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(54) Title: **MULTI-STACK OPTICAL DATA STORAGE MEDIUM AND USE OF SUCH MEDIUM**



**(57) Abstract:** A multi-stack optical data storage medium (20) for rewritable recording using a focused radiation beam (19) entering through an entrance face (16) of the medium (20) during recording is described. The medium (20) comprises a substrate (1) with deposited on a side thereof a first stack (2)  $L_0$  comprising a first phase-change type recording layer (6). The first recording stack (2) is present at a position most remote for the entrance face (16). At least one further recording stack (3)  $L_n$ , which comprises a further phase-change type recording layer (12), is present closer to the entrance face (16) than the first recording stack (2). A transparent spacer layer (9) is present between the recording stacks (2, 3). The further recording layer (12) is substantially of an alloy defined by the formula  $Ge_xSb_yTe_z$  in atomic percentages, where  $0 < x < 15$ ,  $50 < y < 80$ ,  $10 < z < 30$  and  $x + y + z = 100$  with a thickness selected from the range of 4 to 12 nm and has at least one transparent crystallization promoting layer (11', 13') having a thickness smaller than 5nm in contact with the further recording layer (12). A high optical transmission combined with a low crystallization time of the recording layer (12) of the  $L_n$  stack (3) is achieved making the medium (20) suitable for multi-stack high speed recording with a linear recording velocity of at least 12 m/s.

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MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*